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PRICING ARITHMETIC AVERAGE OPTIONS AND BASKET OPTIONS USING MONTE CARLO AND QUASI-MONTE CARLO METHODS

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ABSTRACT

In the present paper, we address the evaluation problem of multidimensional financial options. We apply in particular the Monte Carlo and Sobol Quasi-Monte Carlo numerical integration for pricing asian arithmetic average options and basket options and we show some numerical exemplifications in 4 and 12 dimensions. The paper is the occasion to furtherly test the algorithm for computing the quantile function of the standard gaussian distribution proposed by the authors in a previous publication.

Classification JEL: *C020, C630, C650, G130.*
Keywords: *Monte Carlo and Quasi-Monte Carlo numerical integration, Multidimensional financial options, Sobol low discrepancy sequences, Quantile function.*

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